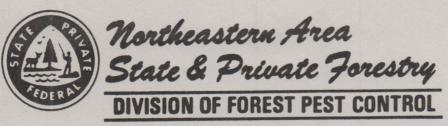
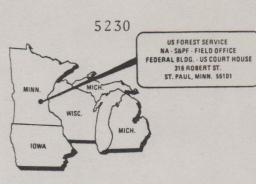
US DEPARTMENT OF AGRICULTURE FOREST SERVICE



Report No. S-69-27

September 1969



AERIAL SURVEY OF JACK PINE BUDWORM DEFOLIATION ON THE HIAWATHA NATIONAL FOREST

By Glen Erickson and R. F. Fowler

INTRODUCTION

Jack-pine budworm, Choristoneura pinus pinus Freeman, defoliation has occurred in the Upper Peninsula, Michigan, during most of the last decade. The last outbreak on the Hiawatha National Forest started in 1965 and peaked in 1967. Defoliation has been on the decline since then.

METHODS

An aerial survey was flown August 7, 1969, in the Forest Service Aero-commander. Flights were in a north-south direction; in parallel lines 6 miles apart; 1000 feet above the ground; at 100 m.p.h. Defoliation was classed as follows:

None - No visible defoliation Light - browning barely visible Moderate - browning obvious, but green foliage predominates

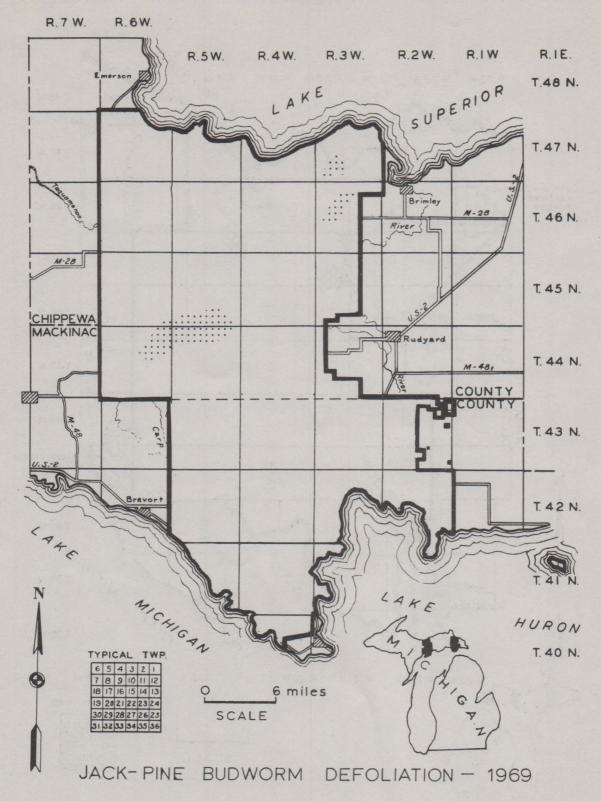
RESULTS

East Unit - Light defoliation was confined to three areas (see map). The red pine mixed with jack pine (T46&47N,R3W) had more visible defoliation than the pure jack pine stands. Light defoliation was observed in the jack pine in the center block.

West Unit - Light to moderate defoliation was observed in several areas. The red pine (T45&46N,R18&19W) had more visible defoliation than adjacent trees or stands of jack pine. All other areas of defoliation had either light or moderate defoliation. In these areas also the red pine appeared to be more heavily defoliated.



HIAWATHA NATIONAL FOREST EAST



:::: LIGHT

HIAWATHA NATIONAL FOREST WEST

